

**AAPG Annual Meeting  
March 10-13, 2002  
Houston, Texas**

Paul Montgomery<sup>1</sup>, Paul Enos<sup>1</sup>, Daniel J. Lehrmann<sup>2</sup>, Wei Jiayong<sup>3</sup> (1) University of Kansas, Lawrence, KS (2) University of Wisconsin-Oshkosh (3) Guizhou Bureau of Geology and Mineral Resources, Guiyang, China

## **High-Resolution Magnetostratigraphic Correlation of Triassic Carbonate Platforms, Nanpanjiang Basin, South China, Indicates Differential Platform Subsidence**

A high-resolution magnetostratigraphy, extending from the Permo-Triassic boundary into the Late Triassic (Carnian), has been established for carbonate strata from 1) the southwestern margin of the giant Yangtze platform (YP) (a composite section) and 2) the basin margin adjacent to the Great Bank of Guizhou (GBG), an isolated platform 150 km to the south. Positive paleomagnetic “stability” tests, including fold, reversal, consistency and conglomerate tests, and excellent agreement between observed and expected Triassic paleomagnetic directions for the YP and the GBG, indicate the primary origin of the magnetostratigraphic data. Magnetic mineralogic studies argue the presence of goethite, multi- and single-domain titanomagnetite, and hematite.

Detailed magnetostratigraphic correlations reveal a prominent deepening event occurred near the Smithian-Spathian boundary (Early Triassic) on the southwestern Yangtze platform but did not effect the Great Bank of Guizhou nor the eastern sector of the Yangtze platform. The global eustatic curve shows a transition to high stand at this time. This apparent differential subsidence is consistent with other evidence that the southwestern sector of the Yangtze platform underwent several episodes of accelerated tectonic subsidence relative to the rest of the platform. This includes 1) slight retreat or vertical accretion of the margin in the early Ladinian whilst the eastern sector prograded at least 1.5 km basinward, 2) drowning of the southwestern sector of the platform at the Ladinian-Carnian transition whilst the eastern sector remained in shallow water, and 3) Middle Triassic strata are appreciably thicker on the southwestern sector.